# ADDITIONS TO THE MOSS FLORA OF VENEZUELA FROM THE STATE OF MÉRIDA

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During July and August of 1972 the authors made a collection of bryophytes from the states of Mérida and Táchira with the view to providing as complete a picture as possible of the floristic diversity of this area. The primary collection contains some 2,500 packets, duplicates of which have been deposited in the herbaria of the University of Florida and the Universidad de los Andes.

A cursory examination of this material has turned up a number of records for the country which are reported at this time along with pertinent notes. A complete list of the species collected will be forthcoming.

To explain the comparative richness of the flora of Mérida, both vascular and nonvascular, consideration must be given to the topography of the state. Beyond the fact that the area lies within tropical latitudes is the additional fact that its topography is exceedingly varied. A diverse mosaic of elevations, exposures and climates provides an ecological background in which a great number of species can and do survive. A simplified vegetational map for the state (Fig. 1) recognizes 4 main zones, yet this hardly begins to account for the numerous subzonal associations and communities that occur. The study by Ewel, Madríz and Tosi (1968) provides a basic picture of the complex physiography of this part of Venezuela.

Mérida is the principal city in the state of the same name. Where in the following notes distance from Mérida is given, it is in reference to the city not the state.

#### Polytrichadelphus aristatus (Hampe) Mitt.

MÉRIDA: Sierra Nevada de Mérida, along path of the Teleférico between La Aguada and La Montaña, inorganic soil bank, 2880 m, 417.

An Andean species, as are most for the genus,  $\underline{P}$ .  $\underline{aristatus}$  has been reported previously from Bolivia to  $\underline{Colombia}$  (Bartram, 1953; Robinson, 1967)

## Tristichium mirabile (C. Müll.) Herz.

MÉRIDA: Sierra Nevada de Santo Domingo, Páramo de Mucubají, above the Laguna Grande, on humid soil bank under shrubs, 3500 m, 996; on soil in protected rock cavities, 3500 m, 1040.

This distinctive taxon, cited from Argentina and Bolivia by Brotherus (1924), later had its range extended to Colombia by Robinson ( $\underline{1}.\underline{c}.$ ) and to Costa Rica by Bowers (1970). Its occurrence in Venezuela is entirely expected.

## Streptopogon cavifolius Mitt.

MÉRIDA: In abandoned coffee plantation on road from Mérida to La Azulita, on branches of <u>Coffea</u> <u>arabica</u>, 1800 m, <u>162</u>, <u>203</u>; along Panamerican Highway in the city of Mérida, on trunk of <u>Salix chilensis</u>, 1600 m, <u>646</u>.

The broadly obtuse, cucullate leaf tips render this species unmistakable. The previous range included Ecuador, Colombia and México (Salmon, 1903)

### Streptopogon lindigii Hampe

MÉRIDA: El Valle road 12 kms. n.w. of Mérida, Quebrada de la Caña, on branches of tree along small ravine, 2400 m, 18.

This species is easily identified by the long aristate, unbordered leaves. Its previous range was restricted to Colombia (Salmon, 1.c.).

# Tayloria scabriseta (Hook.) Mitt.

MÉRIDA: Sierra Nevada de Mérida, along the path of the the Teleférico between La Aguada and La Montaña, in cloud forest on humus, 2900 m, 411.

Known previously from Colombia and Ecuador (Mitten, 1869) and Costa Rica (Bowers, 1.c.)

# Conostomum pentastichum (Brid.) Lindb.

MÉRIDA: Sierra Nevada de Mérida, track of the Teleférico, Loma Redonda station near the Laguna de los Anteojos, páramo, on wet soil, 3800 m, 376, 492; Sierra de Santo Domingo, Paramo de Mucubají, below the Laguna de los Patos, on wet rock cliff, 3700 m, 1374.

Thought to be an austral species, but recently cited from Central and Northern Latin America (Bowers, 1.c.)

Hedwigidium imberbe (Sm.) B.S.G.

MÉRIDA: Sierra Nevada de Mérida, track of the Teleférico, Loma Redonda station, páramo on rock, 3800 m, 373; along the path of the Teleférico between La Aguada and La Montaña, on rock, 3350 m, 209, 232; Sierra Nevada de Santo Domingo, Páramo de Mucubají, above the Laguna Grande, on humic soil, 3500 m, 854, on dry igneous rock, 3390 m, 890, 3500 m, 866, 1068, 1153, 1201; slope of the Laguna Negra, on moist igneous rock, 3350 m, 1156; Páramo de la Negra, on igneous rock, 2900 m, 2061, 3000 m, 2096, 2116.

A cosmopolitan and polymorphic species with a altitudinal-latitudinal gradient (Griffin, in press); in the tropics restricted to the higher elevations and almost invariably collected from igneous rocks.

#### Cryphaea reticulata Besch.

MÉRIDA: El Valle road 12 kms. n.w. of Mérida, Quebrada de la Caña, on tree trunk, 2400 m, 23; El Maciegal, valley of the La Pedregosa stream, tributary of the Chama river, in residual cloud forest on tree trunk, 1900 m, 705; along road from Mérida to La Azulita near los Zíneros, on fallen branches, 2000 m, 1429.

Known previously from México and Guatemala (Bartram, 1949).

In our collection as well is a specimen of <u>Cryphaea filiformis</u> (Hedw.) Brid. with the following collection data: MERIDA: Páramo de la Negra, on branches, 2900 m, 2075. While representing a state record, there is some doubt that it is new for the country. Pittier (1936) makes reference to an <u>Acrocryphaea filiformis</u> Brid. from the Federal District. This combination is invalid, and we assume that his plants are the same as ours.

#### Porotrichodendron robustum Broth.

MÉRIDA: La Carbonera between Mérida and La Azulita on the San Eusebio farm, epiphyte in cloud forest, 2300 m, 1531, 2350 m, 1726.

Previous range; Bolivia (Herzog, 1916), Colombia (Robinson, 1.c.).

### Homalothecium leskeoides (Hook.) Robins.

MÉRIDA: La Chorrera, between Mérida and La Azulita, on boulders along forest stream, 1800 m, 61.

Previous range; Southern United States to South America.

## Aptychella americana (Card.) Broth.

MÉRIDA: Sierra Nevada de Mérida, track of the Teleférico between La Aguada and La Montaña, epiphyte, 3150 m, 229; Sierra Nevada de Santo Domingo, Páramo de Mucubají, on branches of a ligneous Senecio, 3390 m, 1233, on trunk of Espeletia humbertii, 3400 m, 1231, epiphyte, 3400 m, 1238, 1239, 1244.

Previous range; México, West Indies, Colombia and Bolivia (?) . . see Bowers  $(\underline{1}.\underline{c}.)$  and Robinson  $(\underline{1}.\underline{c}.)$ .

### Aptychella proligera (Broth.) Herz.

MÉRIDA: Sierra Nevada de Mérida, track of the Teleférico between La Aguada and La Montaña, on branches of ericaceous shrub, 3260 m, 436; Sierra Nevada de Santo Domingo, below Laguna Negra, on trunk of Polylepis sericea, 3550 m, 958, 961, on branches of a shrubby Berberis, 3390 m, 1247; La Carbonera between Mérida and La Azulita on the San Eusebio farm, fallen trunk, 2300 m, 1484.

#### Stereodon hamatus Mitt.

MÉRIDA: Páramo de la Negra, on trunk and branches of trees, 2900 m, 1966, 1992.

Previous range; Ecuador (Steere, 1948), Colombia (Robinson, 1.c.) and Costa Rica (Bowers, 1.c.). This name is applied to a rather polymorphic complex. Our own plants differ from typical  $\underline{S}$ .  $\underline{hamatus}$  in seta length (1.6 - 2 cm.) and in spore size (27-30 u).

# Hypnum mirabile Bartr.

MÉRIDA: Páramo de la Negra, over thin soil covering igneous rocks, 3000 m, 2101, 2112.

Unmistakable by its nonplicate, abruptly acuminate leaves with conspicuously incrassate alar cells. Previous range limited to México (Crum, 1951) and Guatemala (Bartram, 1949).

# Ctenidiadelphus cylindricarpus (Card.) Bartr.

MÉRIDA; Sierra Nevada de Mérida, track of the Teleférico between La Aguada and La Montaña, on soil-humus, 2940 m, 415.

Previous range; México to Costa Rica (Bowers, 1.c.)

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# STATE OF MÉRIDA, VENEZUELA

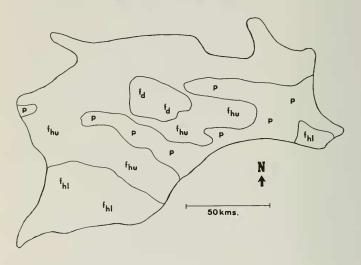


Fig. 1. Generalized vegetational map of the state of Mérida. P = páramo,  $F_d$  = semi-arid deciduous forests and arid forests,  $F_{hl}$  = deciduous forests and rain forests,  $F_{hu}$  = upland deciduous forests and rain forests.